REMARKS

This amendment is in response to the Examiner's Office Action dated 4/6/2005. This response should obviate outstanding issues and make the remaining claims allowable. Reconsideration of this application is respectfully requested in view of the remarks that follow.

STATUS OF CLAIMS

Claims 1-23 are pending.

Claims 1-3 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ma et al. (USP 5,953,338).

Claims 4, 5, 8-10 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ma, as applied to claim 1 above, and further in view of Dugan et al. (USP 6,078,586).

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ma, as applied to claim 4 above, and further in view of Gardner et al. (USP 6,704,327B1).

Claims 14, 21, 22 and 24 stand rejected under 35 U.S.C. § 103(a) as being obvious over Ma.

OVERVIEW OF CLAIMED INVENTION

The present invention provides for a safe network using trunking technology that enables a redundant structure and an increased bandwidth, wherein a physical link (forming a logical link) for traffic meeting a specified condition is exclusively assigned to perform band control in a secure manner. Specifically, the presently claimed invention provides for a band control device having a trunking function used in an end apparatus, a relaying apparatus, and the like, wherein a distributor distributes traffic to a sub-logical link into which specified ones of the physical links

in the logical link are aggregated so as to meet a specified condition of the traffic. Also, the physical links of a number corresponding to the traffic amount is assigned to the sub-logical link. A controller transmits/receives a message for establishing the sub-logical link to/from an opposite controller, and further relays the message to the subsequent apparatus.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 1-3 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ma et al. (USP 5,953,338). To be properly rejected under 35 U.S.C. § 102(b), each and every element of the rejected claims must be disclosed in a single cited reference. The applicant, however, contends that the presently claimed invention cannot be anticipated in view of the Ma et al. reference.

Ma et al. provide for dynamic control processes and systems for asynchronous transfer mode networks. Specifically, Ma et al. disclose a system for dynamic band control of virtual paths and channels based on a customer service contract, such as traffic type or QoS requirements, in an ATM scenario. Ma et al., in an ATM network, performs dynamic determination and change of virtual paths with respect to various traffic types (CBR/VBR/Connection Oriented/Connectionless).

In stark contrast, the present invention is directed towards an Ethernet network, wherein the present invention identifies traffic and assigns physical links for specific traffic, not based on traffic types associated with an ATM network, but based on information such as destination/source MAC address or an IP address protocol identifier.

With regard to claim 1, the examiner on page 2 of the office action of 4/6/2005, asserts that "the CAC in essence determines how to aggregate multiple physical traffic types into a logical link, which is equivalent to the present invention". However, applicant contends that the system and method of Ma et al., as mentioned above, applies to ATM networks in which bandwidth contracted with a user is allocated according to the traffic type, and applicant further contends that the Ma et al. reference fails to teach or suggest the physical links in the logical link are aggregated so as to meet a specified traffic condition. Hence, applicant contends that the Ma et al. reference fails to anticipate or render obvious the limitations of independent claim 1.

With respect to applicant's claim 2, the examiner asserts on page 3 of the office action of 4/6/2005, that the Ma et al. reference anticipates "a traffic monitor for monitoring traffic amount to meet a traffic condition and assigning physical links based on the traffic condition". Applicant respectfully disagrees with the examiner regarding this point, as Ma et al. is directed to ATM networks which do not assign physical links, but merely accommodates them to adjust the bandwidth of virtual paths. Therefore, applicant contends that according to Ma et al., once paths/channels are removed, a redefinition needs to be performed, whereas, applicant's setup allows the addition of new links or the removal of unused physical links from the sub-logical links without affecting the physical links in server, a limitation that is neither taught or suggested by the Ma et al. reference. Hence, applicant contends that the Ma et al. reference fails to anticipate or render obvious the limitations of claim 2.

Although page 2 of the office action states that claim 3 is anticipated by the Ma et al. reference, the remainder of the office action fails to provide any details regarding how the limitations of claim 3 is anticipated by the Ma et al. reference. Applicant respectfully reminds

the examiner that it is the duty of the examiner to specifically point out each and every limitation of a claim being rejected as per §1.104(c)(2) of Title 37 of the Code of Federal Regulations and section 707 of the M.P.E.P., which explicitly states that "the particular part relied on must be designated" and "the pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified".

Additionally, the arguments with respect to claims 1 and 2 substantially apply to dependent claim 3. Further, applicant wishes to note that the Ma et al. reference is silent about releasing an aggregation of the sub-logical link.

With respect to claim 6, the examiner on page 3 of the office action of 4/6/2005, asserts that the "sub-logical link (virtual path) has less physical links (virtual channels) than the logical link (OC-3 type) that can accommodate multiple virtual paths". However, a closer reading of the examiner's citations merely show that according to Ma et al., virtual paths have virtual channels smaller than OC-3. In stark contrast, according to the present invention, the number of physical links forming sub-logical links is fewer than the number forming the logical links (i.e., $n \geq m+1$, where n is a physical number of the logical links and m is a physical number of the sub-logical links. This is because the present invention is characterized by logical links not being occupied by the sub-logical links. Hence, applicant contends that the Ma et al. reference fails to anticipate or render obvious the limitations of claim 6.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 4, 5, 8-10 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ma, as applied to claim 1 above, and further in view of Dugan et al. (USP 6,078,586). To

be properly rejected under 35 U.S.C. § 103(a), each and every element of the claims must be addressed through known prior art or be recognized as an obvious variation thereof. Applicant contends that the combination of the Ma et al. and Dugan et al. references fail to provide many of the limitations of applicant's pending claims.

Dugan et al. disclose a system for structuring VPN in an ATM network. Specifically, Dugan et al. structures VPN of ATM by transmitting/receiving an extension message of setup+ with an opposing ATM switch. Dugan et al. employ a controlling device ICP and utilize a message of setup+ to structure a custom VPN path.

The examiner, on page 4 of the office action of 4/6/2005, asserts that "it would have been obvious to one skilled in the art at the time the invention was made that the setup+ message is received by another control processor at the opposite ATM switch" where the setup+ message is to be transmitted to ICP from the ATM switch but is not processed at the opposite switch. Applicant's claim 4, on the other hand, recites the establishment of virtual paths and also recites the transmission/reception of a message between opposite apparatuses on the route, a limitation that is neither taught nor suggested by the combination of the Ma et al. and Dugan et al. references.

Also, the examiner states on pages 4-5 of the office action that "to alleviate the problem (data network security), virtual private networks have been developed which currently offer circuit-switched voice services to communications customers and provide the benefits of a private network coupled with the efficiencies, lower costs, and carrier management of shared network". This state reemphasizes applicant's contention that the Dugan et al. reference targets

VPN structure of ATM, whereas applicant's invention deals with realizing bandwidth guarantee and redundant structure.

Regarding claim 5, the examiner on page 5 of the office action states that "the ATM switched network routes the setup+ message to an ICP", whereas, in contrast, applicant's claim 5 recites that the controller relays the message to a subsequent apparatus, i.e., a sub-logical link is formed by the transmitting/receiving messages sequentially between relay apparatuses on the routes.

With regards to claims 8-10, the examiner states on pages 6-7 of the office action that "Dugan et al. discloses that a determination is made as to whether a source or destination address field is valid for a virtual path network. If any of the fields are invalid, the ICP returns a release message to the ATM switch to release the channel". However, applicant's claims 8-10 are different from Dugan et al. in that the present invention directly transmits/receives messages between relay apparatuses in order to form sub-logical links with physical links being aggregated by utilizing the messages for occupying the bandwidth. Therefore, applicant contends that each apparatus of Dugan et al. only has to grasp an opposite apparatus directly connected thereto and a specific apparatus need not grasp all of the structure.

Additionally, the present invention can make communications even without forming paths/channels, which is different from Dugan et al.'s ATM technology, wherein communications are disabled unless paths/channels are formed.

With respect to claim 13, Ma et al. disclose releasing CBR itself, which is different from applicant's claim 13 which releases securing bandwidth for a specific traffic and stops processing it preferentially. Applicant wishes to emphasize that, in claim 13, the system stops securing bandwidth for a specific condition, but does not eliminate paths themselves.

Gardner et al. disclose a system for correcting calls of ATM network. According to Gardner et al., a first communication device transports user data and call signaling information to a first internetworking unit which then transports the signaling information to the signal processor via a cross connect.

With respect to claim 7, the examiner states that ATM paths are inherently a concept of tunnel having the same path on go and return routes. In contrast, the link aggregation (or similar technology) described only one-way. Therefore, the present invention recites that the return sub-logical links utilize the same go physical links so that messages forming the sub-logical links are required. Dugan et al. fail to provide for such a function but merely describe a response message being returned, a different limitation than the present invention.

Additionally, the examiner asserts that "a more efficient way to control and transport calls of a broadband systems using ATM is desirable so that the processor is not attached to or physically linked to the internetworking component", which is a different motivation that applicant's invention.

Applicant wishes to note that the above-mentioned arguments substantially apply to claims 14, 21, 22, and 24 as they inherit the limitations of the claim from which they depend.

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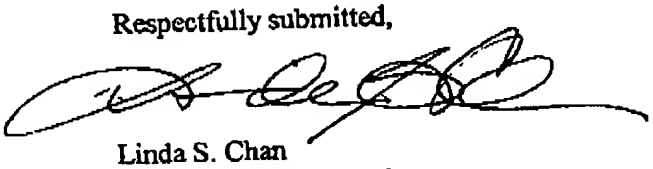
SUMMARY

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicant's presently claimed invention, nor renders them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early issuance is respectfully requested.

This amendment is being filed with a petition for extension of time. The Commissioner is hereby authorized to charge the petition fee, as well as any deficiencies in the fees provided to Deposit Account No. 50-1290.

If it is felt that an interview would expedite prosecution of this application, please do not hesitate to contact applicant's representative at the below number.

Respectfully submitted,



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